Notes: Trig Graph with all 4 transformations

Example: $y = 2\sin(3\left(x - \frac{\pi}{3}\right)) - 5$

1. Draw the baseline of the graph by graphing the horizontal line, $y = D$.

2. Using the amplitude, A, lightly sketch two horizontal lines, $y = D + A$ and $y = D - A$, that will encase the graph.

3. Since (C, D) corresponds to (0,0) of the original sine graph , plot the point (C, D) which will be the first point of the graph's cycle

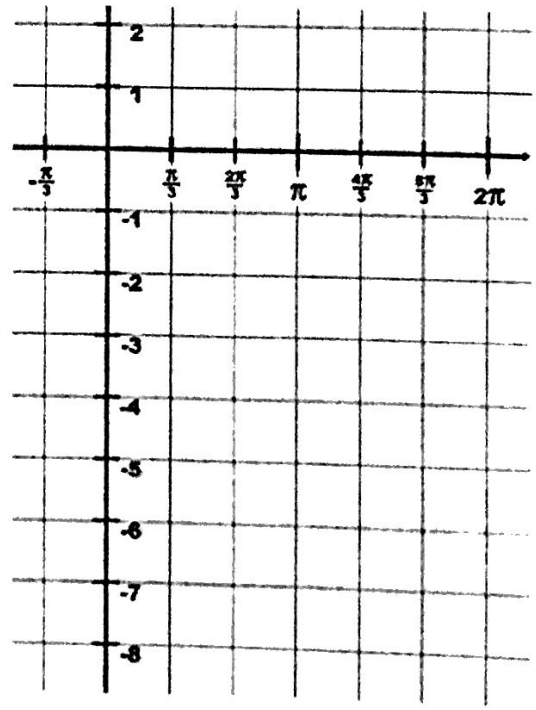
4. Determine the period using B.

$$Period = \frac{2\pi}{B}$$

A complete cycle of the function will be completed within this horizontal length.

5. Count the length of the period from point (C, D). Mark the endpoint of the cycle.

6. Appropriately mark the three other critical points needed to shape the graph: minima, maxima, and any other baseline points according the patterns for each graph.



Notes: Trig Graph with all 4 transformations

Example: $y = 2\sin(3\left(x - \frac{\pi}{3}\right)) - 5$

1. Draw the baseline (midline) of the graph by graphing the horizontal line, $y = D$. -5

2. Using the amplitude, A (2), lightly sketch two horizontal lines, $y = D + A$ and $y = D - A$, that will encase the graph. (-5+2, -5-2)

3. Since (C, D) corresponds to (0,0) of the original sine graph , plot the point (C, D) which will be the first point of the graph's cycle $(\pi/3, -5)$ → $\frac{\pi}{3}$ right

4. Determine the period using B.

$$Period = \frac{2\pi}{B}$$

$\frac{2\pi}{3}$

A complete cycle of the function will be completed within this horizontal length. $\frac{\pi}{3} + \frac{2\pi}{3} = \frac{3\pi}{3} = \pi$ $\frac{3\pi}{3} + \frac{2\pi}{3} = \frac{5\pi}{3}$

5. Count the length of the period from point (C, D). Mark the endpoint of the cycle.

6. Appropriately mark the three other critical points needed to shape the graph: minima, maxima, and any other baseline points according the patterns for each graph.